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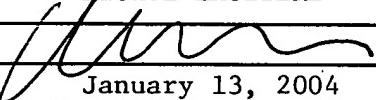
Application Number	10/620,574
Filing Date	07/17/2003
First Named Inventor	LAUZIERE, Michel
Art Unit	
Examiner Name	
Total Number of Pages In This Submission	13
Attorney Docket Number	

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United Kingdom #0216559.5

### SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm or Individual	Michel LAUZIERE
Signature	
Date	January 13, 2004

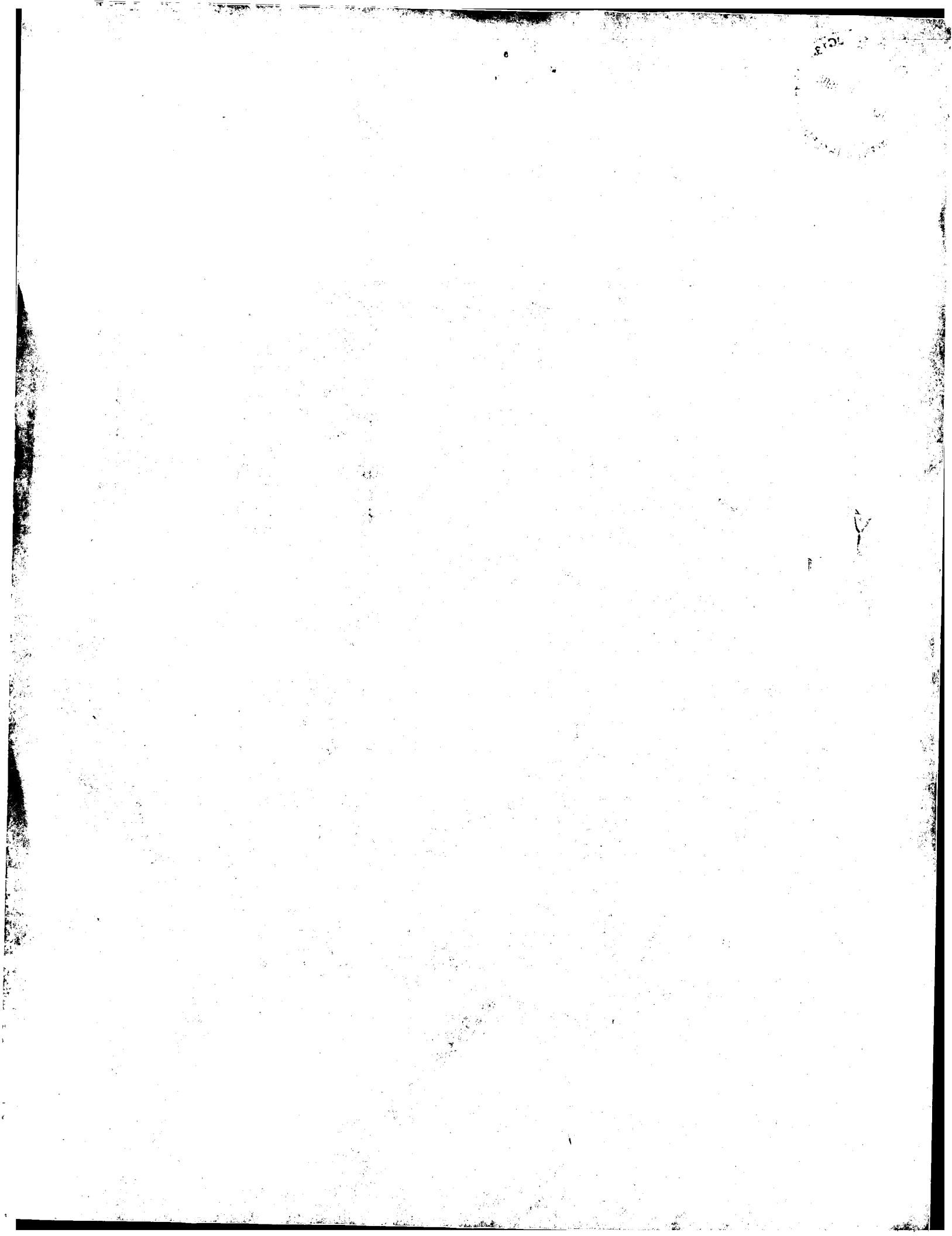
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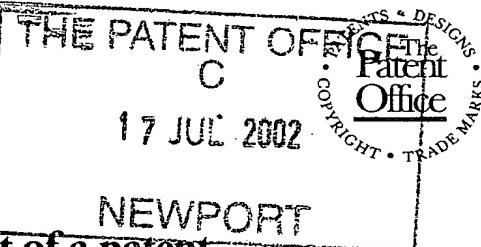
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Dated 22 July 2003



17 JUL 02 E733860-1 C05193  
P01/7700 0.00-0216559.5

## NEWPORT

## Request for grant of a patent

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17 JUL 2002

1. Your reference

9038-1

2. Patent application number

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3. Full name, address and postcode of the or of each applicant (*underline all surnames*)
 MICHEL LAUZIERE  
 263, CHEMIN MONT STE ANNE  
 STE ANNE DES LACS, QUEBEC, CANADA  
 J0R 1B0
Patents ADP number (*if you know it*)

CUSTOMER ACCOUNT NUMBER C05193

If the applicant is a corporate body, give the country/state of its incorporation

8427056001

4. Title of the invention

MULTI-PURPOSE FLOATATION DEVICE

5. Name of your agent (*if you have one*)

"Address for service" in the United Kingdom to which all correspondence should be sent  
(including the postcode)

 INVENTION QUEBEC INC.  
 DELEGATION GENERALE DU QUEBEC  
 59, PALL MALL  
 LONDON, ENGLAND  
 SW1Y 5JH
Patents ADP number (*if you know it*)

5871199003

6. If you are declaring priority from one or more earlier patent applications, give the country and the date of filing of the or of each of these earlier applications and (*if you know it*) the or each application number

Country

Priority application number  
(*if you know it*)Date of filing  
(day / month / year)

7. If this application is divided or otherwise derived from an earlier UK application, give the number and the filing date of the earlier application

Number of earlier application

Date of filing  
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8. Is a statement of inventorship and of right to grant of a patent required in support of this request? (Answer 'Yes' if:

- a) any applicant named in part 3 is not an inventor, or
- b) there is an inventor who is not named as an applicant, or
- c) any named applicant is a corporate body.

See note (d))

**Patents Form 1/77**

9. Enter the number of sheets for any of the following items you are filing with this form.  
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Continuation sheets of this form	1
Description	2 X 11
Claim(s)	<i>R.M.</i>
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Drawing(s)	2 X 4

10. If you are also filing any of the following, state how many against each item.

Priority documents  
Translations of priority documents  
Statement of inventorship and right to grant of a patent (*Patents Form 7/77*)  
Request for preliminary examination and search (*Patents Form 9/77*)  
Request for substantive examination  
(*Patents Form 10/77*)  
Any other documents  
(please specify)

11. I/We request the grant of a patent on the basis of this application.

Signature   
MICHEL LAUZIERE

Date July 5/2002

12. Name and daytime telephone number of person to contact in the United Kingdom (0171) 930-8314

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I,      Michel Lauziere

C/O    Invention Quebec inc.  
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Montreal, Quebec, Canada  
H1Z 2H4

do hereby declare this invention to be described in the following statement:

### **MULTI-PURPOSE FLOATATION DEVICE**

#### **FIELD OF THE INVENTION:**

The present invention relates to the general field of recreational water devices and is particularly concerned with a multi-purpose floatation device.

#### **BACKGROUND OF THE INVENTION:**

Floatation devices used for the purpose of recreational floatation or body support of an individual in a body of water such as a pool, have long been popular and are now available in a variety of configurations. Indeed, the use of recreational floatation devices is wide spread. Various types of particularly popular floatation devices include inflatable rafts, floating chairs, inner tubes and large ridged pieces of foam. Although popular, these prior art devices nevertheless suffer from numerous drawbacks.

For instance, one of the most popular type of floatation device includes inflatable products including a flexible air impermeable material such as vinyl plastic. These inflatable air mattresses may be simple and inexpensive or elaborate and expensive. Inflatable products are distributed in many shapes such as, for example, whales, dinosaurs, lobsters and the like. Adaptation may provide, for example, handle grips, drinking glass holders, leg apertures and clear plastic viewing windows to look through into the water under the inflatable device. These devices suffer from numerous disadvantages including the fact that they all must be inflated, such as by using a pump or by the user blowing into a valve. Both procedures may prove to be tedious, time consuming and exhausting.

Furthermore, over inflation or under inflation is always a concern. Once the device are inflated, pin-hole leaks can develop allowing air to escape causing them to deflate and gradually become less effective in their continued use, at which point the floatation device must be either reinflated or hole must be patched. Indeed, they are typically polymeric or water impermeable cloth fabric construction and, when punctured, lose balancing partially or completely. Their construction typically involves seams, which may be difficult to repair if a puncture or tear occurs on a scarn. The inclusion of repair kits, with available inflatable floatation devices, is very common.

Another type of relatively popular floatation device includes a construction using a rigid or semi-rigid foam slab material. These types of devices are typically composed with two large opposing flat surfaces. There may be a foam pillow or such support incorporated at one end for head and neck support. One of the disadvantages associated with this type of product is that lying on the foam slab results in a high center of gravity above the surface of the water. Thus, it is relatively easy to tip about the center axis of the device or to lose balance while moving about while on the slab.

Another type of prior art floatation device includes water loungers or water mattresses having stacked layers of air bubble sheet plastic encased in flexible plastic sheet or mesh. This type of device suffers from some of the hereinabove mentioned disadvantages. Yet another type of prior art device involves adding floatation structures to conventional floatable chairs. These devices have the disadvantage of being bulky and may use metal frames, for example tube frames which may bend or crack. The frames may also rust or decay with use, especially when used in recreational pool water containing traces of chlorine. This type of water lounger also tends to be easy to tip.

Most of these prior art devices also suffer from drawbacks such as their inherent tendency to hold the majority of one's body above the surface of the water which reduces the effect of the water on the body. This allows one's body to become relatively warm. It also greatly reduces the movement of the body from propulsion and/or exercise purposes. Furthermore, they are often only limited to one type of usage, namely either a usage in a sitting or in a supine position, hence lacking versatility. Still furthermore, they are often deprived of propulsion structures, such as paddles, hence again lacking in versatility. Accordingly, there exists a need for an improved floatation device.

It is an object of the present invention to provide an improved floatation device that can be used for many purposes. Advantages of the present invention include that the proposed floatation device forms a buoyant structure which provides the user with a wide range of body positions from sitting upright to supine. Furthermore, it allows an intended user to vary body positions through ergonomical movements while remaining on the device.

Also, the proposed device allows virtually unrestricted use of a user's upper and lower limbs for propulsion and exercise purposes. It also allows accommodation of a wide variety of body shapes and sizes.

Regardless of the body shape or size, it may provide good stability and relatively comfortable fit. It is relatively easy to get into and out of.

The floatation device in accordance with the present invention may also be easily stored in a relatively confined area yet be ready for use without the need for filling the device with air or other lengthy preparation. Still furthermore, the proposed device optionally provides for removable panels that can be used for propulsion and removed from the device when not in use.

The proposed device is manufactured so as to be relatively light weight, yet sturdy. It is designed so as to be manufacturable using conventional forms of manufacturing so as to provide a device that will be economically feasible, long lasting and relatively trouble free in operation. Also, the device is inherently buoyant due to the use of cylindrical tubes of a closed cell foam. The device can be readily built using commercially available material such as ETHAFOAM or similar closed cell cylindrical foam floatation material including products sold under the trademark "WATER NOODLE".

**BRIEF DESCRIPTION OF THE DRAWINGS:**

Embodiments of the present invention will now be disclosed, by way of example, in reference to the following drawings in which:

**FIGURE 1:** in a top perspective view, illustrates a multi-purpose floatation device in accordance with an embodiment of the present invention;

**FIGURE 2:** in a top perspective view, illustrates a multi-purpose floatation device in accordance with an alternative embodiment of the present invention;

**FIGURE 3:** in a top view with sections taken out, illustrates the multi-purpose floatation device shown in FIG. 1 with one of its paddle yet about to be attached thereto;

**FIGURE 4:** in a partial longitudinal cross sectional view with sections taken out, illustrates part of the multi-purpose floatation device shown in FIGS. 1 and 3;

**FIGURE 5:** in a transversal cross sectional view taken along arrows V-V of FIG. 3, illustrates the cross sectional configuration of some of the components of the multi-purpose floatation device shown in FIG. 3;

**FIGURE 6:** in a partial perspective view with sections taken out, illustrates the configuration of a transversal rod and a reinforcement plate, both part of the multi-purpose floatation device in accordance with an embodiment of the present invention;

**FIGURE 7:** in partial cross sectional view with sections taken out, illustrates the configuration of various components, part of a multi-purpose floatation device in accordance with an embodiment of the present invention;

**FIGURE 8:** in a partial exploded view with sections taken out, illustrates part of a seat component incorporated in a multi-purpose floatation device in accordance with an embodiment of the present invention;

**FIGURE 9:** in a partial perspective view with sections taken out, illustrates an alternative embodiment of the seat component, shown in FIG. 8;

**FIGURE 10:** in a schematic side view, illustrates a multi-purpose floatation device in accordance with an embodiment of the present invention. The multi-purpose floatation device being shown with an intended user mounted thereon. The intended user being shown laying in a relatively supine position;

**FIGURE 11:** in a schematic side view, illustrates a multi-purpose floatation device in accordance with an embodiment of the present invention. The multi-purpose floatation device being shown with an intended user mounted thereon. The intended user being shown sitting in a generally upright position.

**DETAILED DESCRIPTION:**

Referring to FIG. 1, there is shown a multi-purpose floatation device (10) in accordance with an embodiment of the present invention. The device (10) includes a buoyant body (12) typically made out of at least two (2) pieces (14) attached together. In the embodiment shown in FIG. 1, six (6) pieces of tubing are attached in a side-by-side relationship relative to each other to form the buoyant body (12). In the embodiment shown in FIG. 2, only two (2) larger pieces (14') are used for forming the buoyant body (12'). It should be understood that any number of piece(s) tubings (14) could be used without departing from the scope of the present invention.

Typically, the tubing (14) is made out of ETHAFOAM (a trademark) or similar closed cell cylindrical foam floatation material. Commercially available cylindrical foam floatation material is sold under the trademark "WATER NOODLE". This commercially available foam floatation material typically has a generally cylindrical cross sectional configuration and are sold in different lengths. The body (12) could also be made out of STYROFOAM with a registered trademark symbol or other materials if desired.

The body (12) typically has a generally elongated configuration defining a body longitudinal axis (16). The floatation tubes (14) are typically configured, sized, positioned and assembled so that the body side peripheral edges (22) taper inwardly towards each other in a direction leading towards the body first longitudinal end (18). Hence, the body (12) defines a generally narrow apex section (24). As illustrated more specifically in FIGS. 5 through 7, the tubes (14) are typically assembled together using a set of transversally extending attachment rods (26). The attachment rods (26) are provided with rod caps (28) at each longitudinal ends thereof for securing the outermost tubes (14) located adjacent the body side peripheral edges (22).

Each attachment rod (26) typically includes at least one detachable rod cap or head (28) for allowing slidable insertion of the attachment rods (26) transversally to the tubes (14). The removable attachment cap or head (28') shown on the left hand side of FIG. 6, is attached to the remainder of the attachment rod (26), using a suitable releasable attachment means, such as a threaded stem (30), extending from the attachment rod (26) and a corresponding threaded sleeve (32), extending from the cap or head (28'). The peripheral surface of the cap or head (28) are typically configured with flattened surfaces (34) so as to facilitate manual grasping thereof.

As illustrated more specifically in FIGS. 5 and 7, each tube (14) typically has a generally disc shaped cross sectional configuration. However, each tube (14) is typically provided with at least one generally flat tube abutment surface (36) for abutting against an adjacent tube abutment surface (36) of an adjacent tube (14). The tube abutment surfaces (36) are adapted to provide increased stability against the tubes (14) rotating relative to each other. Furthermore, the tube abutment surfaces (36) may be coated with a suitable adhesive material during assembly, if required.

As illustrated more specifically in FIGS. 3 through 6, the body (12) also includes a reinforcement plate (38) extending longitudinally and partially across the body (12). Typically, the reinforcement plate (38) is located substantially centrally in the transverse cross section. Also, typically, the reinforcement plate (38) extends from an initial plate location (40), shown in FIG. 3, positioned generally at approximately 1/4 of the length of the body (12) from the body second longitudinal end (20). The reinforcement plate (38) typically extends to a distal location (42) located generally half way between the body first and second longitudinal ends (18), (20). It should be understood that the length and positioning of the reinforcement plate (38) could vary without departing from the scope of the present invention. The reinforcement plate (38) allows the adjacent corresponding section of the body (12) to remain relatively rigid for supporting the back of the intended user. The section of the body (12) located between the distal location (42) and the body first longitudinal end (18) is typically flexible due to the relatively flexible and resilient nature of the tubes (14).

As illustrated more specifically in FIG. 4, the reinforcement plate (38) may optionally also protrude outwardly from a water contacting surface (44) of the body (12) so as to define a keel (46). The keel typically tapers towards the water contacting surface (44) in a direction leading towards the body first longitudinal end (18). It should be understood that the keel could have other configurations without departing

from the scope of the present invention. Typically, the keel (46) is used more frequently with the embodiment shown in FIG. 2. In the embodiment shown in FIG. 2, the components (14) are typically molded out of unitary pieces of material.

The device (10) is also typically provided with a head rest component (48) for supporting the head and neck region of the intended user. The head rest component (48) typically includes at least one (1) and preferably three (3) generally cylindrical head tubes (50) assembled together using assembly means such as a layer of adhesive material or the like. One of the head tubes (50) is pivotally attached by pivoting arms (52) to an attachment rod (26) such as shown in FIGS. 5 and 6. Typically, the attachment arms (52) are provided with a bridging segment (54) extending therebetween. The bridging segment (54) extends through a corresponding bridging segment sleeves (56) extending through one of the head tubes (50).

As illustrated in FIGS. 4 and 7, by pivoting the attachment arms (52) about the corresponding attachment rod (26) and by pivoting the attachment head tube (50) about the bridging segment (54) the head tube component (48) may provide for various types of adjustment depending on the ergonomic preferences of the intended user. The arms (52) are typically allows to pivot relative to the body (12) in corresponding arm slots (53) formed in the body (12).

The device (10) also includes a sitting component (58). The sitting component (58) typically extends integrally from the reinforcement plate (38) adjacent the distal end (42) thereof. As illustrated more specifically in FIGS. 8 and 9, the sitting component (58) typically includes a generally U-shaped rigid frame (60). In the embodiment shown in FIG. 8, the U-shaped frame (60) has a generally flat configuration substantially similar to that of the reinforcement plate (38) while in the embodiment shown in FIG. 9, the U-shaped frame (60') of the seat component (58') has a generally disc-shaped cross sectional configuration for providing increased

structural rigidity and additional comfort. In both embodiments, the U-shaped frame (60) or (60') is typically coated with a sleeve (62) typically also formed of closed cell foam material similar to that used for the tubes (14).

The distal end (64) of the U-shaped frame (60) is typically provided with a flattened section having mounting apertures (66) for use for mounting an attachment bracket (68) to the distal end (64) of the U-shaped frame (60).

As illustrated more specifically in FIG. 8, the attachment bracket (68) typically includes a frame attachment section including tines (70) having tine attachment apertures (72) extending therethrough. Conventional fastening means such as attachment pins (74) can be used for attaching the tines (70) to the U-shaped frame (60). The attachment bracket (68) also includes a generally transversally extending attachment flange (76) having paddle attachment apertures (78) extending therethrough.

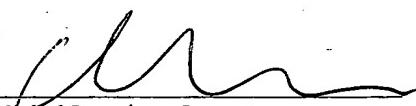
The device (10) optionally further includes paddles (80) including paddle fins (82) attached to paddle handles (84). The proximal end of the paddle handles (84) is typically provided with a hook-shaped paddle attachment component (86) for insertion into the paddle attachment apertures (78) of the flanges (76). The paddles (80) can thus be easily attached and removed from the device (10) without requiring special tooling or manual dexterity. Furthermore, the connection between the paddles (80) and the flanges (76) allow for free rotation of the paddles (80) in most directions.

The body (12) is typically configured so as to enable an intended user having his or her back abutting against the section solidified by the reinforcement plate (38) to have his or her lower limbs straddle the tapered narrower section located adjacent the body first longitudinal end (18). In use, as illustrated in FIGS. (10) and (11), the

device (10) may be used in either a supine or seated position. In both positions, the back of the intended user is rigidly supported by the section including the reinforcement plate (38). The section extending between the distal end (42) and the body first longitudinal end (18) is substantially flexible and buoyant. Hence, it typically assumes the configuration shown in FIG. 11 when the intended user sits in a generally upright position with his or her legs straddling the device (10) on each side. In such a position, the body of the intended user may be at least partially immersed in the body of water while being bluntly supported. The intended user is free to use both upper and lower limbs for propulsion. Optionally, the paddles (80) may also be used.

In the generally supine position shown in FIG. 10, the whole body of the intended user may be buoyantly supported by the body (12). Again, both the upper and lower limbs of the intended user may be used for propulsion as well the paddles (80), if needed. In both positions, the head and neck region of the intended user is preferably ergonomically supported by the head supporting component (48). It should be understood that the device (10) could be used in any other position including intermediate positions between the generally supine and upright sitting positions shown in FIGS. 10 and 11.

Signed:

  
Michel Lauziere, Inventor

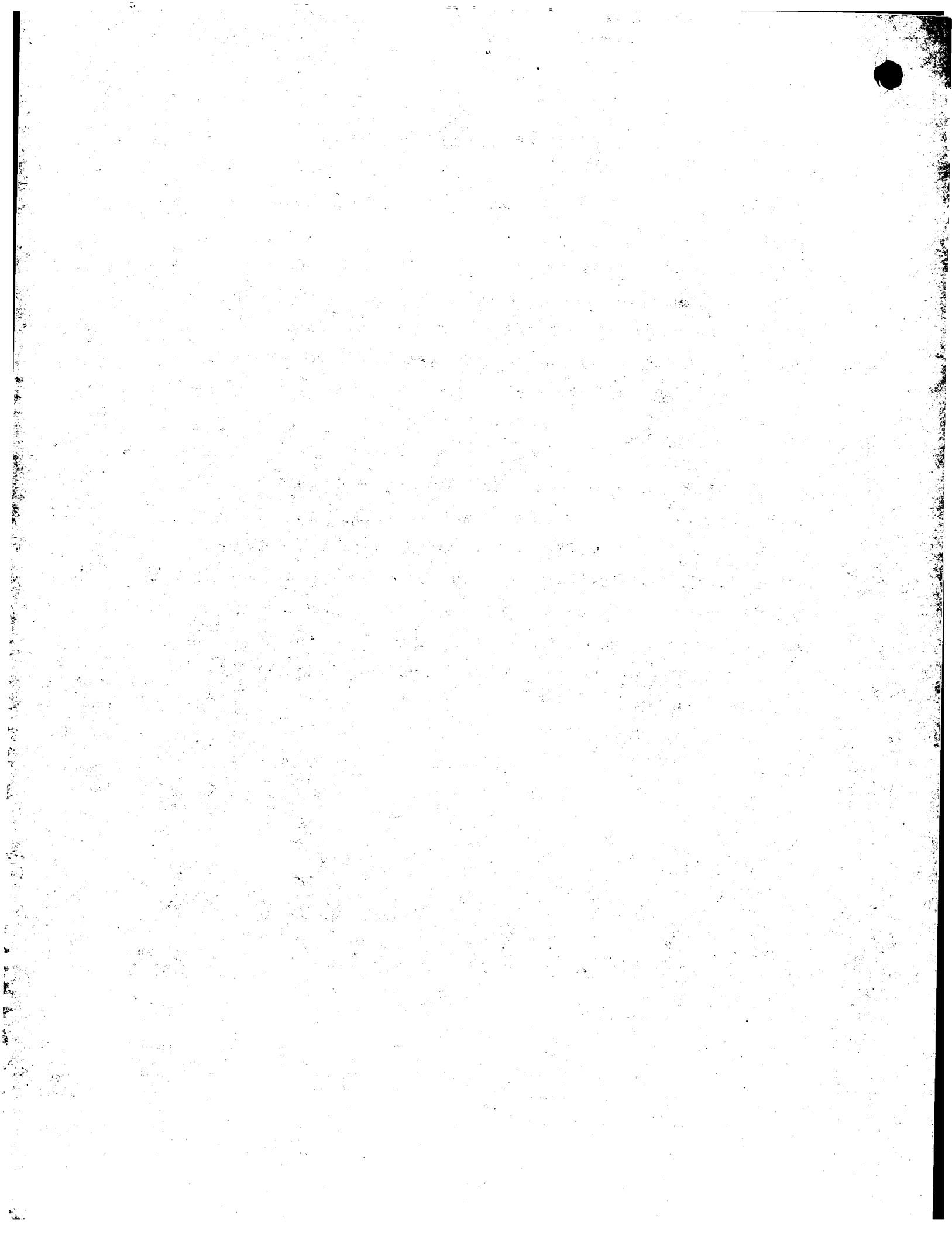
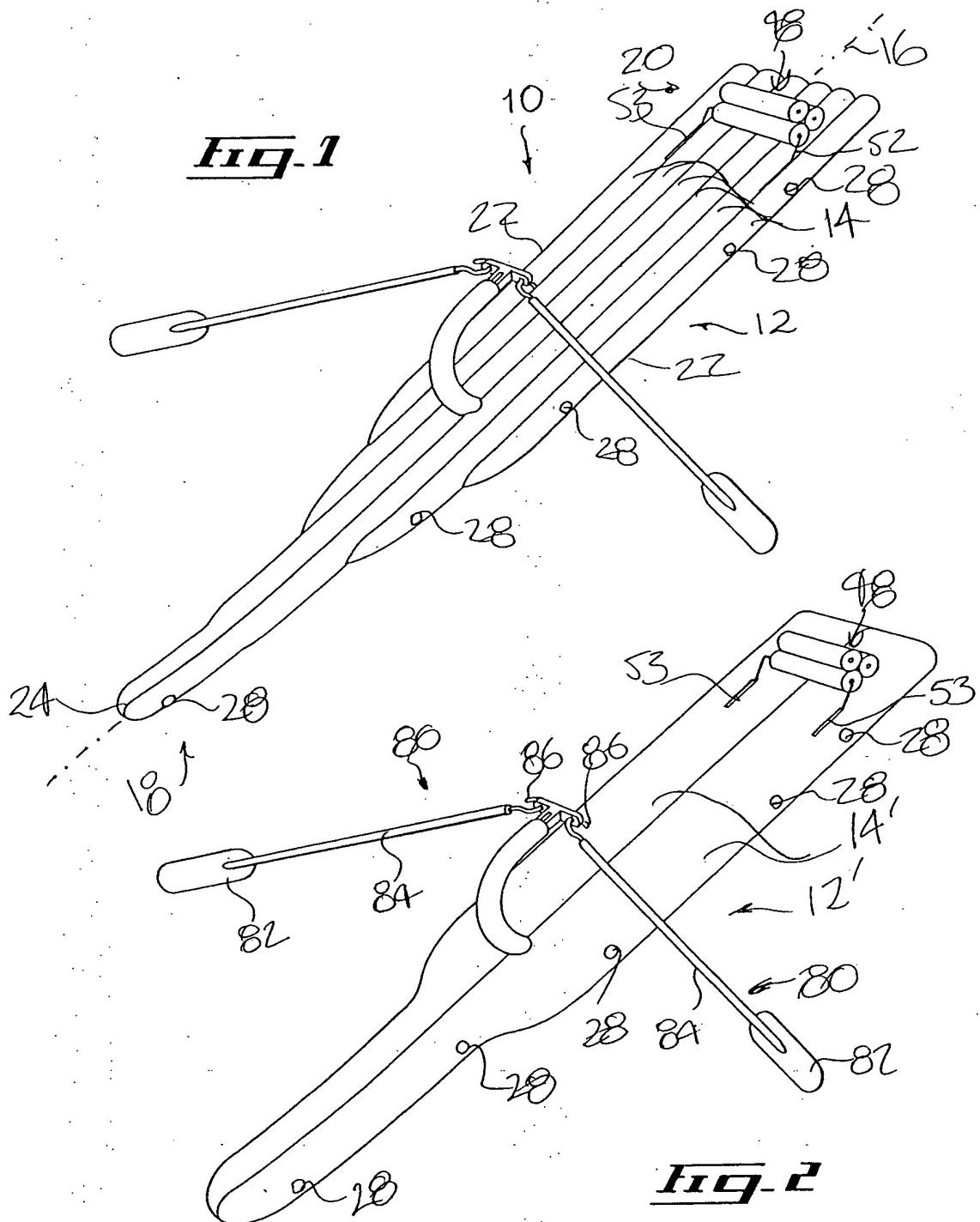


Fig. 1



INVENTOR

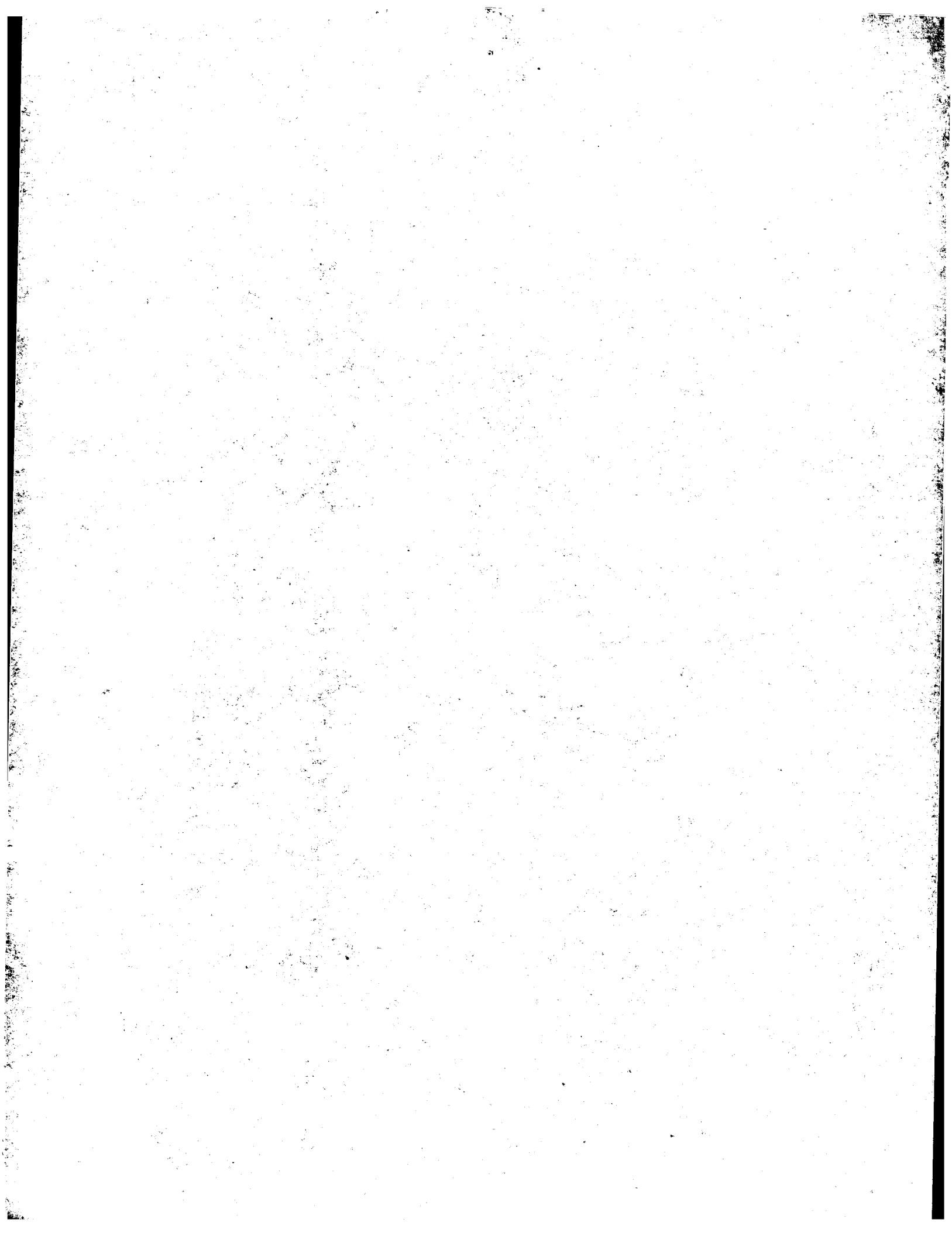


FIG. 3

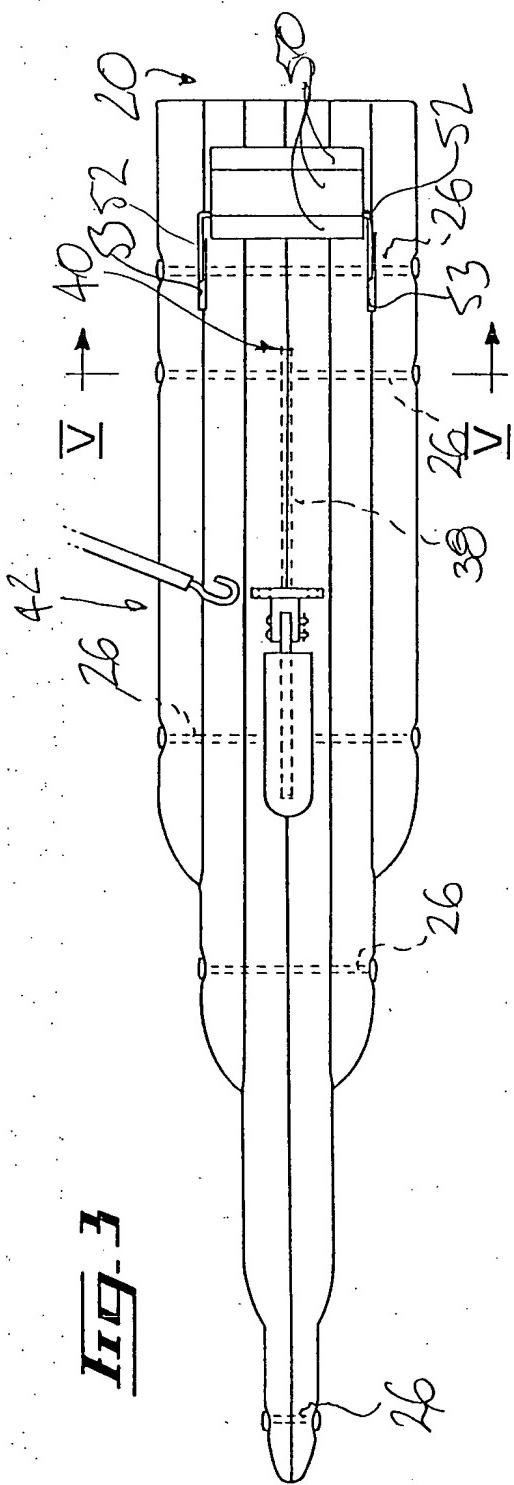
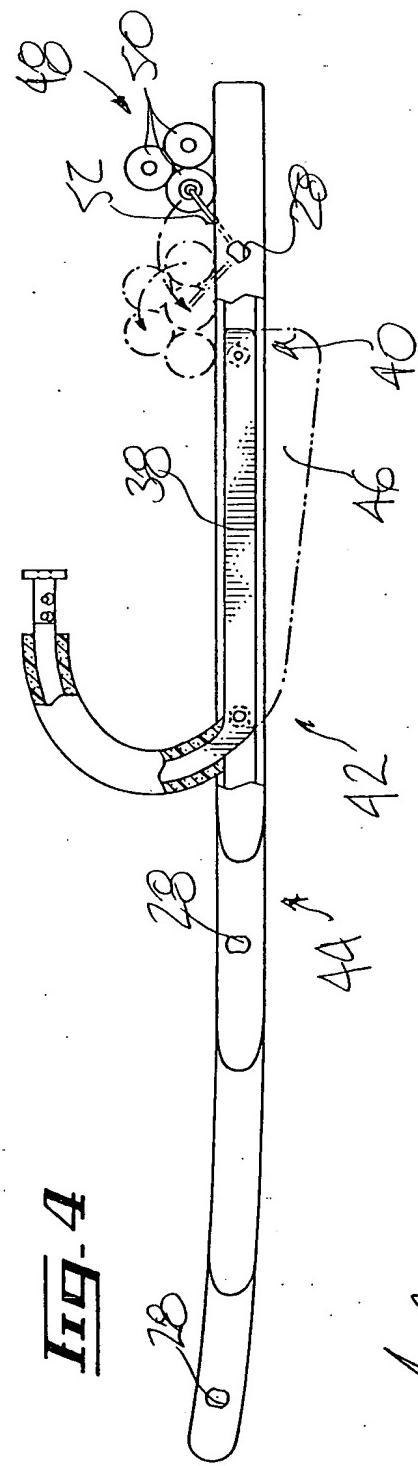


FIG. 4



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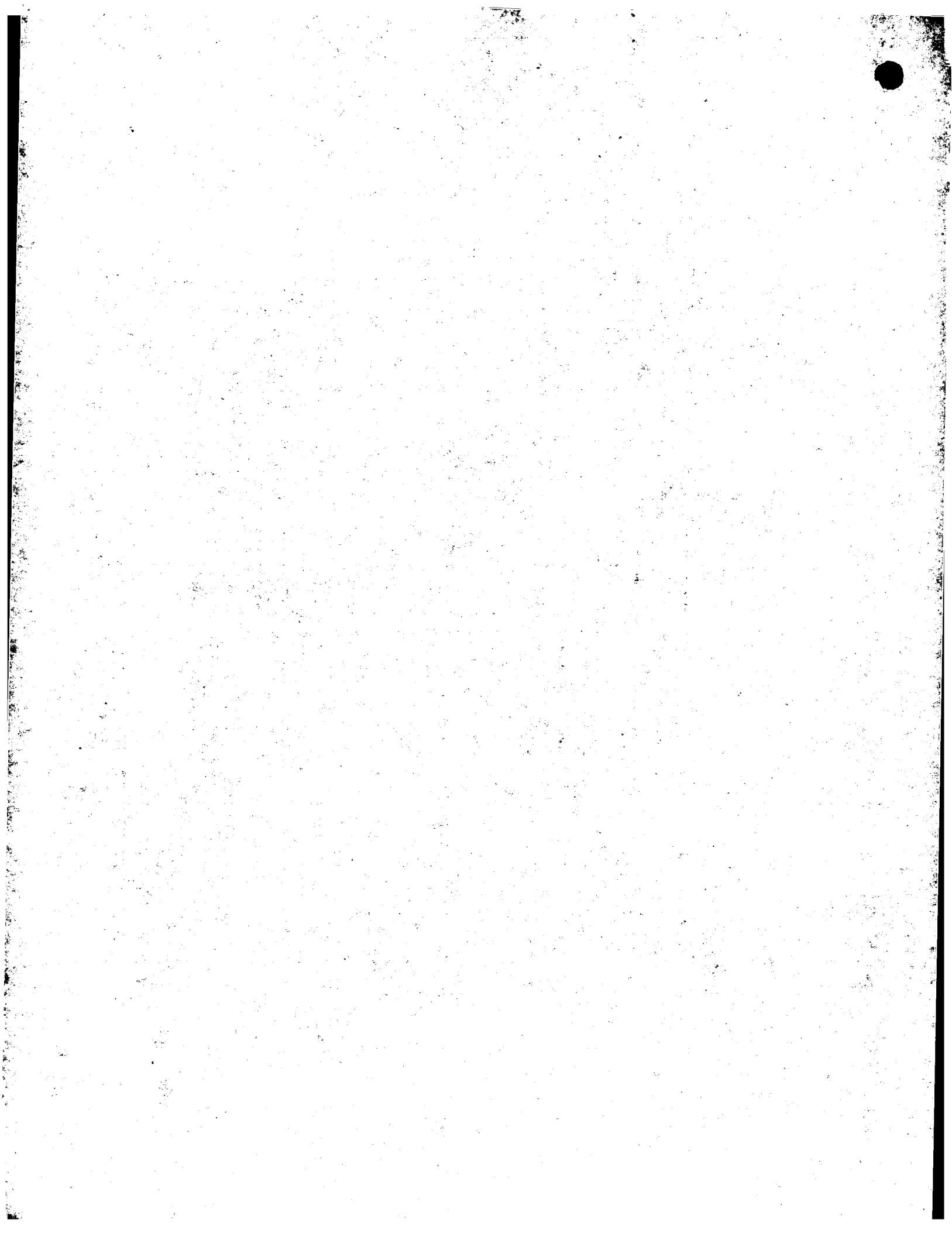


FIG. 5

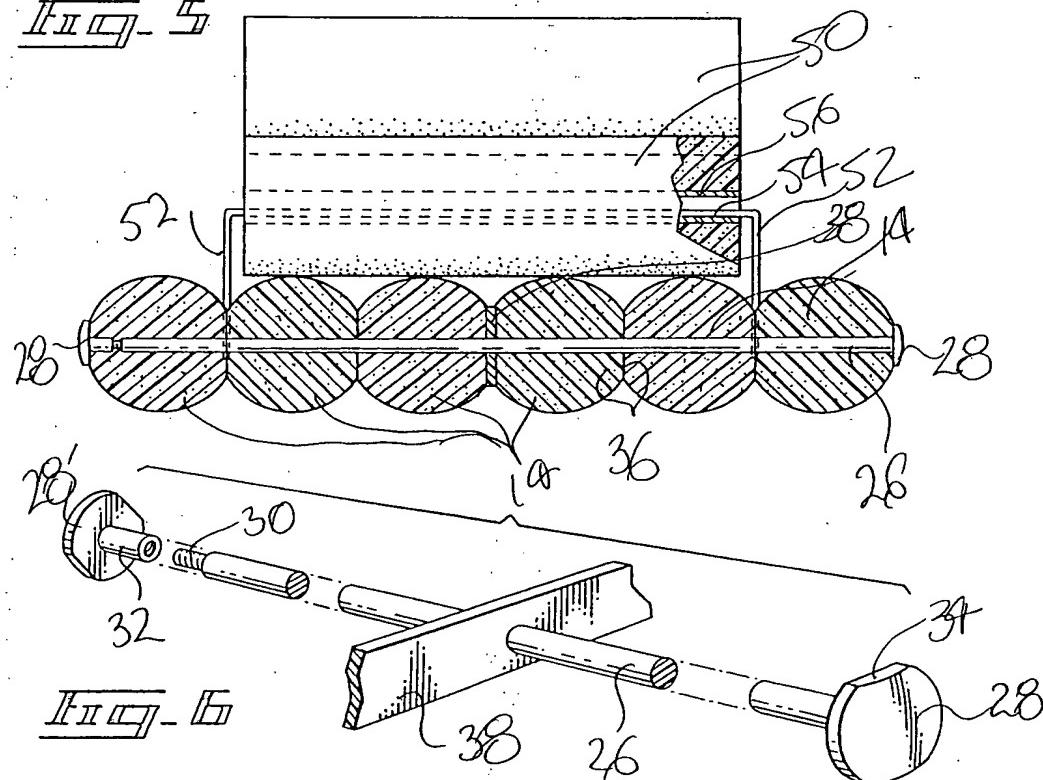


FIG. 6

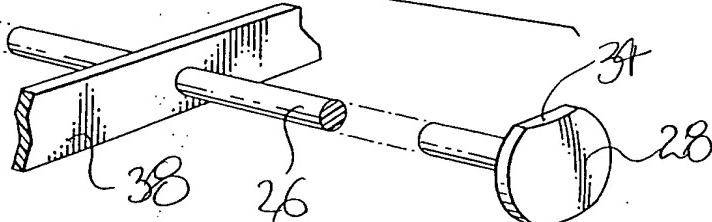
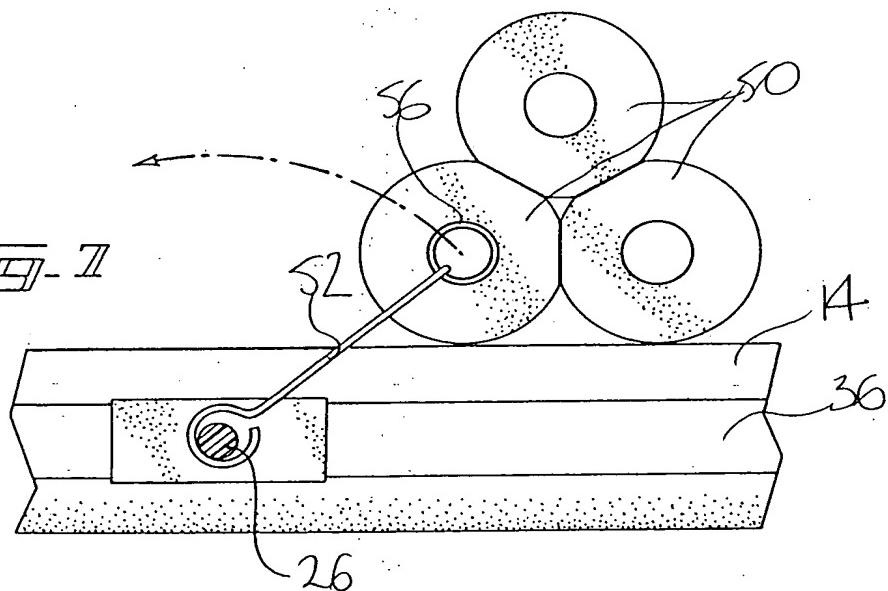


FIG. 7



M  
INVENTOR

